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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,452	07/17/2006	Mun Su Sin	0465-1432PUS1	4640
2292	7590	10/06/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			LEUNG, PHILIP H	
			ART UNIT	PAPER NUMBER
			3742	

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/550,452	SIN, MUN SU	
	Examiner Philip H. Leung	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on \_\_\_\_.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_ is/are allowed.  
 6) Claim(s) 1-20 is/are rejected.  
 7) Claim(s) \_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 26 September 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. ____.
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>9-26-05 &amp; 12-5-05</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: ____.

**DETAILED ACTION**

1. The drawings filed 9-26-2005 are acceptable.
2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
3. All the references cited by the applicant on 9-26-2005 and 12-05-2005 have been considered, however, the foreign references cited on 9-26-2005 are not in the file. Therefore, a copy of EP-1335636, JP-01-314816 and JP-61041828 should be submitted to complete the file.
4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the term “the *cooling* chamber” at the end of the claim has no proper antecedent basis. Should it be “the *cooking* chamber” instead? The phrase “such as” at line 7 renders the claim indefinite because it is unclear whether the limitations “a magnetron and fan mounted therein” following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Clarification and correction are required.

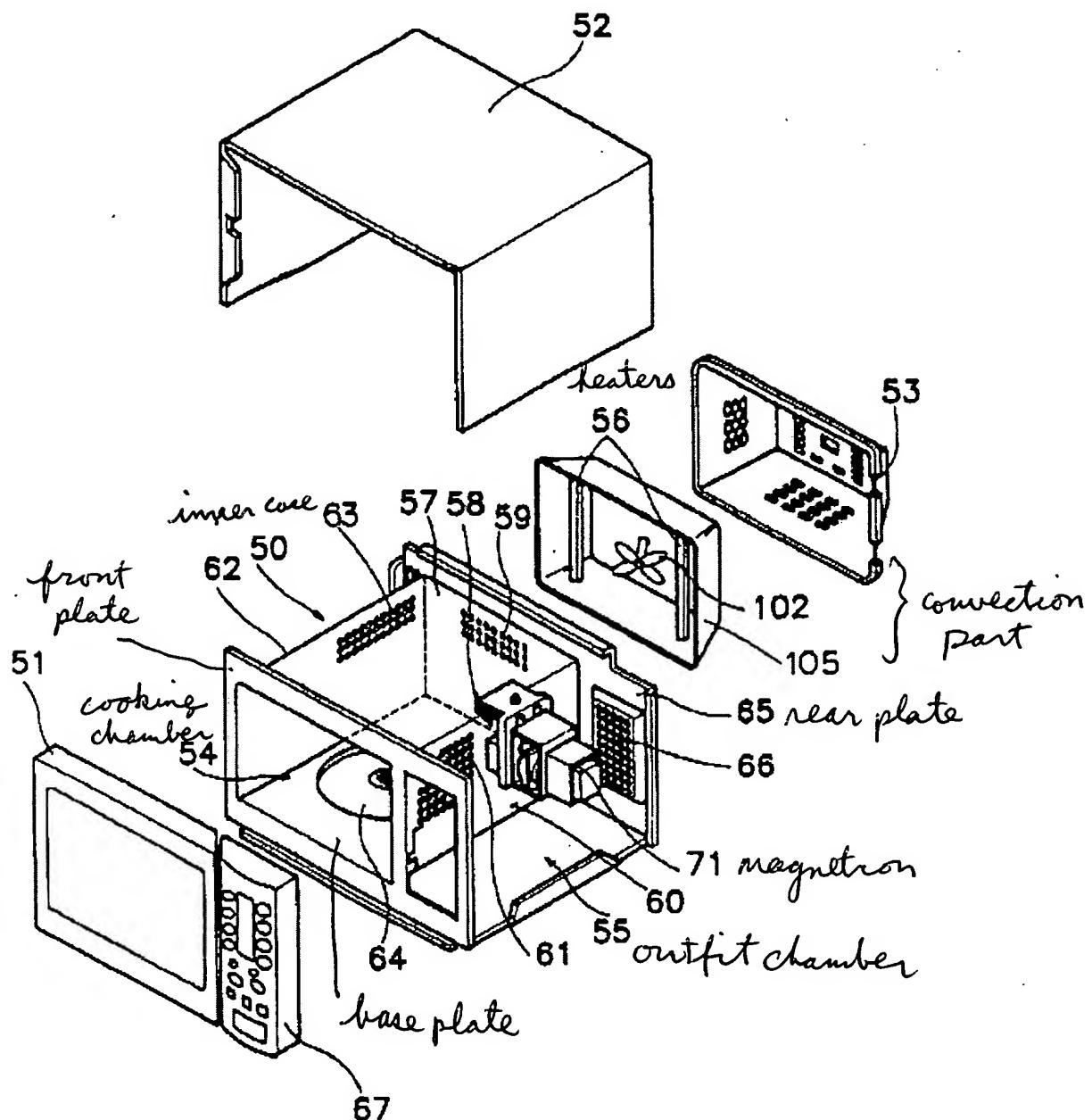
6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-8, 10 and 12-17 are rejected under 35 U.S.C. 103(a) as being obvious over Hong et al (US 5,674,425), in view of Tanaka et al (US 4,107,502) (cited by the applicant).

Hong shows a microwave oven comprising: a base plate (the bottom plate of the microwave oven); a front plate and a rear plate vertically mounted at front and rear edges of the base plate; an inner case 50 between the front plate to form a cooking chamber therein; an outfit chamber at one side of the inner case having various components including a magnetron 71 and fan 68 mounted therein; and a convection part 100 mounted in rear of the inner case for providing heat to the cooking chamber (see the mark-up copy of Figure 1 below).

FIG. 1



Therefore, Hong shows every feature as claimed except that the rear plate does not have a curved rear part. Tanaka shows a microwave oven including an inner case 2 having a curved rear plate

2d in order to accommodate the turntable to eliminate idle space (see Figures 2 and 5, the abstract and col. 3, line 36 – col. 4, line 15). It would have been obvious to an ordinary skill in the art at the time of invention to modify Hong to form the rear part of the inner case as a semicircular part to better utilize the oven space, in view of the explicit teaching of Tanaka as set forth at col. 5, line 29 – col. 6, line 15. In regard to claim 5, Hong shows the claimed air inlet holes 59, 66. In regard to claims 7 and 14, Hong shows a heater 56, a convection fan 102 and a motor 101 (see Figures 1-3 and col. 3, line 46 – col. 5, line 11).

8. Claims 9, 11 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hong et al (US 5,674,425), in view of Tanaka et al (US 4,107,502), as applied to claims 1-8, 10 and 12-17 above, and further in view of Suzuki (GB 2 237 487).

As set forth above, Hong combined with Tanaka shows a microwave oven having every feature as claimed except for the use of an anti-fan between the convection motor and the convection fan. Suzuki shows that it is routine in a microwave convection oven to provide a fan 87 between the convection fan 84 and the convection motor for cooling the motor 85 (see Figures 1 and 7 and the paragraph bridging pages 8 and 9). It would have been obvious to an ordinary skill in the art at the time of invention to modify Hong combined with Tanaka combined with Tanaka to use an anti-fan between the convection fan and the convection motor to cool the motor to prevent it from overheating; in view of the teaching of Suzuki. It is also pointed out that Suzuki shielding plate 83 between the convection fan and the motor as claimed in claim 18.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip H. Leung whose telephone number is (571) 272-4782.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (571)-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Philip H Leung  
Primary Examiner  
Art Unit 3742

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9-27-2006